

REMARKS

Claims 1, 3-5, 9, 12, 14-16, and 20-21 are pending in the present application. By this Response, claims 1, 5, 9, 12, 20 and 21 are amended to recite that the label information comprises a location of a barcode on the cartridge label. These amendments do not raise any new issues requiring further search or consideration because they are in accordance with the arguments previously presented and place the application in condition for allowance for the reasons set forth hereafter. Reconsideration of the claims in view of the above amendments and following remarks is respectfully requested.

I. 35 U.S.C. § 102, Alleged Anticipation of Claim 1

The Final Office Action maintains the rejection of claim 1 under 35 U.S.C. § 102(b) as being allegedly anticipated by IBM Technical Disclosure Bulletin, Vol 37, Issue #3, pages 205-206 ("IBM TDB" hereinafter). This rejection is respectfully traversed.

As discussed in the previously filed Response (dated June 24, 2003), the IBM TDB teaches determining label orientation based only on whether the barcode is read with a forward scan or a reverse scan. To the contrary, the present invention, as set forth in claim 1, recites reading label information from a cartridge label on a cartridge, wherein the label information comprises a location of a barcode. Thus, IBM TDB fails to teach or suggest each and every feature recited in claim 1 as is required under 35 U.S.C. § 102(b).

In response to the above arguments, the Examiner states in the Final Office Action:

Some of Applicant's remarks appear to misunderstand the purpose of the IBM Technical Disclosure Bulletin. Bar code readers are designated to read the label information, and output it through an interface in a format useful and intelligible to the device to which it is connected. For example, the Examiner has a Welch Allyn Scanteam 3400 CCD bar code reader at his desktop workstation for scanning in patent application bar codes. The 3400 is connected in a "wedge" configuration with the examiner's keyboard, to the keyboard port on the workstation. Therefore, if the output of the 3400 is to be useful to the workstation, it must output ascii characters using the same signaling conventions a PC keyboard uses. It cannot output bar width

information, and rely on the computer to decode it, as some early bar code readers did. The Welch Allyn 3400 performs an operation that is convenient to many users: it outputs the numbers in their proper order regardless of whether it reads the label upside down or right side up. So, if the Examiner reads the bar code of the instant application right side up, the output of the 3400 is: "10003351". If Examiner holds the same bar code upside down and reads it, the output of the 3400 is "10003351". Even though the characters encoded in the bar code were presented to the bar code in the order: "15330001", the 3400 correctly recognized the start and stop codes, and that the label was being held upside down, and correctly identified which application the Examiner was holding. Otherwise, errors would get introduced into the tracking system used by PTO, or any other tracking system that uses the 3400.

Most bar code readers operate in this fashion. The reader knows whether the label is right side up, or upside down, but never passes along this information to the system it is connected to because it is typically seen as irrelevant. Who cares whether the examiner was holding the patent application upside down when the bar code was scanned? It's useless information.

Not so with the automated tape libraries which are the subject of the IBM TDB. Anyone who's ever used a cassette player or VHS video tape player knows that the orientation of the tape matters. A VHS tape goes in a VCR only one way, and an audio tape plays different songs depending on the way it is loaded. An automated tape library doesn't have a person to look at the orientation of the tape. If the tapes were placed in the machine by a person, they might be loaded incorrectly, because people make mistakes. How will the machine recover? The IBM TDB teaches how. Change the bar code reader to make it pass along the orientation information, which it normally keeps to itself. Then, the orientation of the tape will be known, by knowing the orientation of the label. That way, the tape library won't attempt to load a tape in the tape reader upside down, which would cause a mal-function.

Applicants appreciate the Examiner's statements regarding barcode readers and the intent of the IBM TDB. However, there seems to be a fundamental misunderstanding of Applicants' remarks. Applicants are not asserting that barcode readers are not able to discern the orientation of the barcode based on reading of the barcode nor are Applicants asserting that the IBM TDB does not teach reading a barcode and determining the orientation of a tape based on the direction of scan necessary to read the barcode correctly. Applicants arguments are directed to the fact that the present invention determines orientation of a cartridge in a patentably different manner from that of the IBM TDB.

Although the IBM TDB teaches a procedure for dealing with incorrectly oriented labels, it is an entirely different approach from that of the present invention. The IBM TDB speaks specifically about using a barcode scanner to determine the label orientation based upon the scan direction. The present invention, as recited in claim 1, requires that the label information be the location of a barcode on the label. Thus, the present invention, as recited in claim 1, is not concerned with determining which direction the barcode on the label is scanned, just its location on the label. Thus, rather than having to actually read the barcode and determine which scan direction results in a valid barcode, the present invention identifies the location of the barcode on the label and uses this as a means for determining whether the cartridge is properly oriented or not. In fact, a barcode reader is not necessarily required to perform the operation of determining whether a cartridge is correctly oriented or not, as recited in claim 1, since it is not necessarily required that the barcode itself be read. All that is required is that the location of the barcode be read and used as a basis for determining whether the cartridge is properly oriented.

It is not an issue with the present invention, as recited in claim 1, whether the label is fixed in such a way that it will register a forward or reverse scan, all that matters is where the label is located. For instance, consider a label that happens to include a barcode on a right-hand side of the label on a cartridge. With this example, if the present invention were applied, the cartridge may be determined to be properly oriented simply because the barcode is located on the right-hand side of the label, as opposed to the left-hand side of the label which would indicate the cartridge to have been misoriented. With the IBM TDB, whether or not the barcode is on the left or right-hand side of the cartridge label, or anywhere else on the cartridge label, the barcode must be scanned to determine which scan direction results in a valid barcode value being discerned.

Thus, while Applicants appreciate the Examiner's position with regard to scan-direction and the IBM TDB, the present invention, as recited in claim 1, includes features that are not taught or suggested by the IBM TDB. This is because the mechanism recited in claim 1 operates in a patentably different manner from the IBM TDB. In light of this distinct difference, Applicants respectfully request withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b).

II. 35 U.S.C. § 103, Alleged Obviousness

The Final Office Action maintains the rejection of claims 3-5, 9, 12, 14-16 and 20-24 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ellis et al. (US Patent No. 4,450,385) in view of IBM TDB. This rejection is respectfully traversed.

As discussed in the June 24, 2003 Response, Ellis teaches determining status of storage cells in an automated storage and retrieval system. Ellis teaches scanning each cell in a storage and retrieval system. A determination is made as to whether a mark, e.g. a barcode, for a tape is detected or a mark for the cell is detected. If the mark for the tape is detected, then the cell is considered occupied. If the mark for the cell is detected, then the cell is detected to be empty. If neither mark is detected, a grabber mechanism is used to determine if there is a tape in the cell or not.

Ellis does not teach or suggest determining an orientation of a cartridge. Rather, Ellis only determines whether a cartridge is detected or not detected. If no mark is detected, a gripper mechanism is used to check the cell and attempt removal. If an object is detected and the removal is unsuccessful, the cell is marked as "invalid".

The IBM TDB does teach determining cartridge orientation based on whether a barcode is forward scanned or reverse scanned. However, as discussed above with respect to claim 1, the IBM TDB does not teach or suggest determining whether a cartridge is correctly oriented based on a location of a barcode on the label. Since neither Ellis nor the IBM TDB teach or suggest determining whether a cartridge is correctly oriented based on a location of a barcode on the label of the cartridge, any alleged combination of Ellis and the IBM TDB still would not result in such a feature being taught or suggested. Similar features with regard to the location of the barcode on the label are recited in independent claims 5, 9, 12, 16, 20 and 21 as well.

Thus, since neither the IBM TDB nor Ellis, either alone or in combination, teach or suggest this feature which is recited in independent claims 1, 12 and 20, the alleged combination of IBM TDB and Ellis cannot be found to teach the features of dependent claims 3-4 and 14-15.

In addition, neither the IBM TDB nor Ellis, either alone or in combination, teach or suggest the specific features set forth in dependent claims 3-4 and 14-15. That is, with regard to claims 3 and 14, neither reference teaches or suggests an "orientation unknown list" or adding the cartridge to an orientation unknown list if the cartridge is not correctly oriented based on the label information. Regarding claims 4 and 15, neither the IBM TDB nor Ellis, either alone or in combination, teach or suggest performing a retrieval operation on each cartridge in an orientation unknown list and determining whether each cartridge is correctly oriented based on success of the retrieval operation. These features are not specifically addressed by the Final Office Action and thus, the Final Office Action fails to set forth a prima facie case of obviousness with regard to these features. Moreover, while Ellis may teach maintaining a data structure identifying which cells are empty and which are populated by a cartridge, there is no teaching or suggestion in Ellis regarding maintaining an "orientation unknown list" such as that recited in claims 3-4 and 14-15.

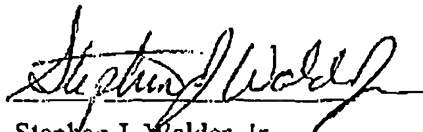
Thus, in view of the above, Applicants respectfully submit that neither the IBM TDB nor Ellis, either alone or in combination, teach or suggest the features of claims 3-5, 9, 12, 14-16 and 20-21. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 3-5, 9, 12, 14-16 and 20-21 under 35 U.S.C. § 103(a).

III. Conclusion

It is respectfully urged that the subject application is patentable over the cited art and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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